

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of processing a packet comprising:
receiving the packet;
translating the packet from a first protocol-specific format to a canonical packet format
having a fixed length;
translating the packet from the canonical packet format to a second protocol-specific format; and
forwarding the packet.
2. (Original) A method of processing a packet as recited in claim 1 wherein the canonical packet format is a generic format that can represent multiple protocol-specific formats.
3. (Original) A method of processing a packet as recited in claim 1 wherein the translating is performed in a network device.
4. (Original) A method of processing a packet as recited in claim 1 wherein the translating is performed in a network switch.
5. (Original) A method of processing a packet as recited in claim 1 wherein the translating is performed in a network switch that includes a pooling switch.
6. (Original) A method of processing a packet as recited in claim 1 wherein the first and second protocol-specific formats are the same.
7. (Currently Amended) A method of processing a packet as recited in claim 1 wherein translating the packet from a first protocol-specific format to a canonical packet format includes

~~copying~~ writing information associated with protocol-specific fields from the packet in the first protocol-specific format.

8. (Currently Amended) A method of processing a packet as recited in claim 1 wherein translating the packet from a first protocol-specific format to a canonical packet format includes ~~copying~~ writing information associated with protocol-specific fields from the packet in the first protocol-specific format to protocol-specific fields in the packet in the canonical packet format.

9. (Currently Amended) A method of processing a packet as recited in claim 1 wherein translating the packet from a first protocol-specific format to a canonical packet format includes ~~copying~~ writing information associated with general fields from the packet in the first protocol-specific format.

10. (Currently Amended) A method of processing a packet as recited in claim 1 wherein translating the packet from a first protocol-specific format to a canonical packet format includes ~~copying~~ writing information associated with multiple protocol-specific fields from the packet in the first protocol-specific format.

11. (Currently Amended) A method of processing a packet as recited in claim 1 wherein translating the packet from a first protocol-specific format to a canonical packet format includes ~~copying~~ writing information associated with protocol-specific fields from the packet in the first protocol-specific format to common fields in the packet in the canonical packet format.

12. (Currently Amended) A method of processing a packet as recited in claim 1 wherein translating the packet from a first protocol-specific format to a canonical packet format includes:
~~copying~~ writing information associated with protocol-specific fields from the packet in the first protocol-specific format to protocol-specific fields in the packet in the canonical packet format;

~~copying~~ writing information associated with general fields from the packet in the first protocol-specific format to general fields in the packet in the canonical packet format; and

~~copying~~ writing information associated with common fields from the packet in the first protocol-specific format to common fields in the packet in the canonical packet format.

13. (Original) A method of processing a packet as recited in claim 1 wherein:

the translating is performed in a network device;

translating the packet from the first protocol-specific format to the canonical packet format occurs during data ingress; and

translating the packet from the canonical packet format to the second protocol-specific format occurs during data egress.

14. (Currently Amended) A network device for processing a packet comprising:

an ingress interface for receiving the packet;

an ingress processing engine configured to translate a packet from a first protocol-specific format to a canonical packet format having a fixed length;

an egress processing engine configured to translate the packet from the canonical packet format to a second protocol-specific format; and

an egress interface for forwarding the packet.

15. (Original) A network device for processing a packet as recited in claim 13 wherein the ingress and egress interfaces are the same physical interface.

16. (Original) A network device for processing a packet as recited in claim 13 wherein the ingress and egress processing engines are implemented on a single physical processor.

17. (New) A method of processing a packet as recited in claim 1 wherein at least one field of the canonical packet format is shared by multiple protocols.

18. (New) A computer program product for processing a packet, the computer program product being embodied in a computer readable medium and comprising computer instructions for:

receiving the packet;

translating the packet from a first protocol-specific format to a canonical packet format having a fixed length;

translating the packet from the canonical packet format to a second protocol-specific format; and

forwarding the packet.